1   WHAT IS CLAIMED IS

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         1. A semiconductor device which allows an
input signal thereto to select one of N operation
modes, and operates in said one of N operation modes,
said semiconductor device comprising:
10   a selection circuit for selecting an
operation mode from said N operation modes when said
input signal indicates said operation mode, and for
selecting a predetermined operation mode from said N
operation modes when said input signal is an undefined
15 signal indicating none of said N operation modes; and
         an internal circuit operating in an operation
mode selected by said selection circuit.

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         2. The semiconductor device as claimed in
claim 1, wherein said selection circuit comprises:
         a first circuit for selecting one of
25 predetermined N-1 operation modes among said N
operation modes by decoding said input signal; and
         a second circuit for selecting, based on
logic operation of outputs of said first circuit, a
remaining operation mode of said N operation modes when
30 none of said predetermined N-1 operation modes is selected.

35   3. The semiconductor device as claimed in
claim 2, wherein said selection circuit further
comprises N-1 signal lines connecting between said

1   first circuit and said second circuit, and said second
    circuit is located in a proximity of said internal
    circuit or within said internal circuit.

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        4. The semiconductor device as claimed in
    claim 1, wherein said selection circuit comprises:
10   a third circuit for detecting said undefined
    signal;
        a fourth circuit, responsive to an output
    from said third circuit, for storing said input signal
    when said input signal is not said undefined signal,
15 and for holding a currently stored input signal when
    said input signal is said undefined signal; and
        a fifth circuit for selecting one of said N
    operation modes by decoding said input signal stored in
    said fourth circuit.
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        5. A semiconductor device which allows an
25 input signal thereto to select one of N operation
    modes, and operates in said one of N operation modes,
    said semiconductor device comprising:
        a selection circuit for selecting an
    operation mode from said N operation modes when said
30 input signal indicates said operation mode, and for
    selecting a predetermined operation mode from said N
    operation modes when said input signal is an undefined
    signal indicating none of said N operation modes;
        a core circuit for storing data; and
35   a control circuit operating in an operation
    mode selected by said selection circuit to control said
    core circuit.

1   6. The semiconductor device as claimed in claim 5, wherein said selection circuit comprises:

a first circuit for selecting one of predetermined N-1 operation modes among said N

5   operation modes by decoding said input signal; and

a second circuit for selecting, based on logic operation of outputs of said first circuit, a remaining operation mode of said N operation modes when none of said *predetermined* N-1 operation modes is selected.

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7. The semiconductor device as claimed in

15   claim 6, wherein said selection circuit further comprises N-1 signal lines connecting between said first circuit and said second circuit, and said second circuit is located in a proximity of said *control* ~~internal~~ circuit or within said *control* ~~internal~~ circuit.

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8. The semiconductor device as claimed in

25   claim 5, wherein said selection circuit comprises:

a third circuit for detecting said undefined signal;

a fourth circuit, responsive to an output from said third circuit, for storing said input signal

30   when said input signal is not said undefined signal, and for holding a currently stored input signal when said input signal is said undefined signal; and

a fifth circuit for selecting one of said N operation modes by decoding said input signal stored in

35   said fourth circuit.

1   9. A method of selecting one of a plurality
of operation modes in a semiconductor device by using
an input signal, said method comprising the steps of:
            selecting an operation mode from said
5   plurality of operation modes when said input signal
indicates said operation mode; and
            selecting a predetermined operation mode from
said plurality of operation modes when said input
signal is an undefined signal indicating none of said
10   plurality of operation modes.

15   10. A method of selecting one of N operation
modes in a semiconductor device by using an input
signal, said method comprising the steps of:
            selecting one of predetermined N-1 operation
modes among said N operation modes by decoding said
20   input signal; and
            selecting a remaining operation mode of said
N operation mode when none of said N-1 operation modes
is selected.

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            11. A method of selecting one of a plurality
of operation modes in a semiconductor device by using
30   an input signal, said method comprising the steps of:
            detecting whether said input signal is an
undefined signal indicating none of said plurality of
operation modes;
            storing said input signal to a register when
35   said input signal is not an undefined signal;
            holding said input signal currently stored in
said register when said input signal is an undefined

1   signal; and

          selecting one of said plurality of operation
modes by decoding said input signal stored in said
register.

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